

# Priorités pour la recherche- action sur changement climatique et villes du futur

Anne-Hélène PRIEUR-RICHARD  
Agence Nationale de la Recherche  
(Future Earth)

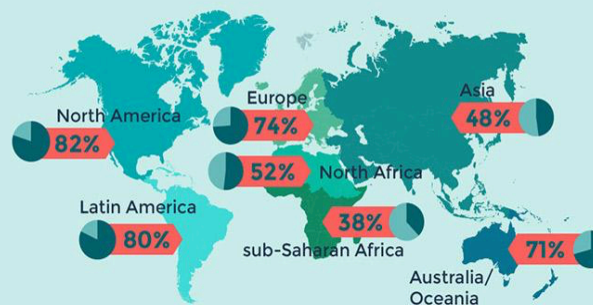
17-19 Décembre 2018, Marseille

## Share of the Urban Population Worldwide



Source: United Nations, Department of Economic and Social Affairs, Population Division (2014).  
World Urbanization Prospects: The 2014 Revision, custom data acquired via website

## Share of Urban Population on all Continents



Source: United Nations Department of Economic and Social Affairs (UNDESA) 2016, online database

## Le rôle clé des villes: forte vulnérabilité ET moteur de résolution du défi du changement climatique

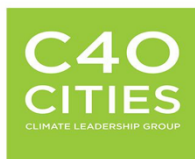


- Conférence scientifique sur les villes et le changement climatique – Agenda de recherche-action
- Conférence scientifique sur les villes et le changement climatique – Pistes de mise en œuvre
- Aperçu du financement par l'Agence Nationale de Recherche sur cette thématique



- IPCC AR 5 – Reconnaissance de l'importance croissante de la thématique des villes
- 43ème Plénière GIEC (avril 2016): Approbation d'un Rapport Spécial sur les villes pour le cycle AR7
- 44ème Plénière GIEC (oct. 2016): Approbation de la proposition de conférence scientifique sur les villes
- Contribution AR 6 & AR 7
- Conférence internationale sur la science du changement climatique et des villes, 5-7 mars 2018, Edmonton, Canada

- Evaluer **l'état de connaissances** académiques et des acteurs de terrain sur changement climatique et villes
- Développer un agenda de recherche et action basé sur l'identification conjointe des lacunes par les **scientifiques, les politiques et les gestionnaires**
- **Rassembler les perspectives** provenant de différentes
  - Communautés
  - Types de connaissances
  - Régions
  - Types de villes

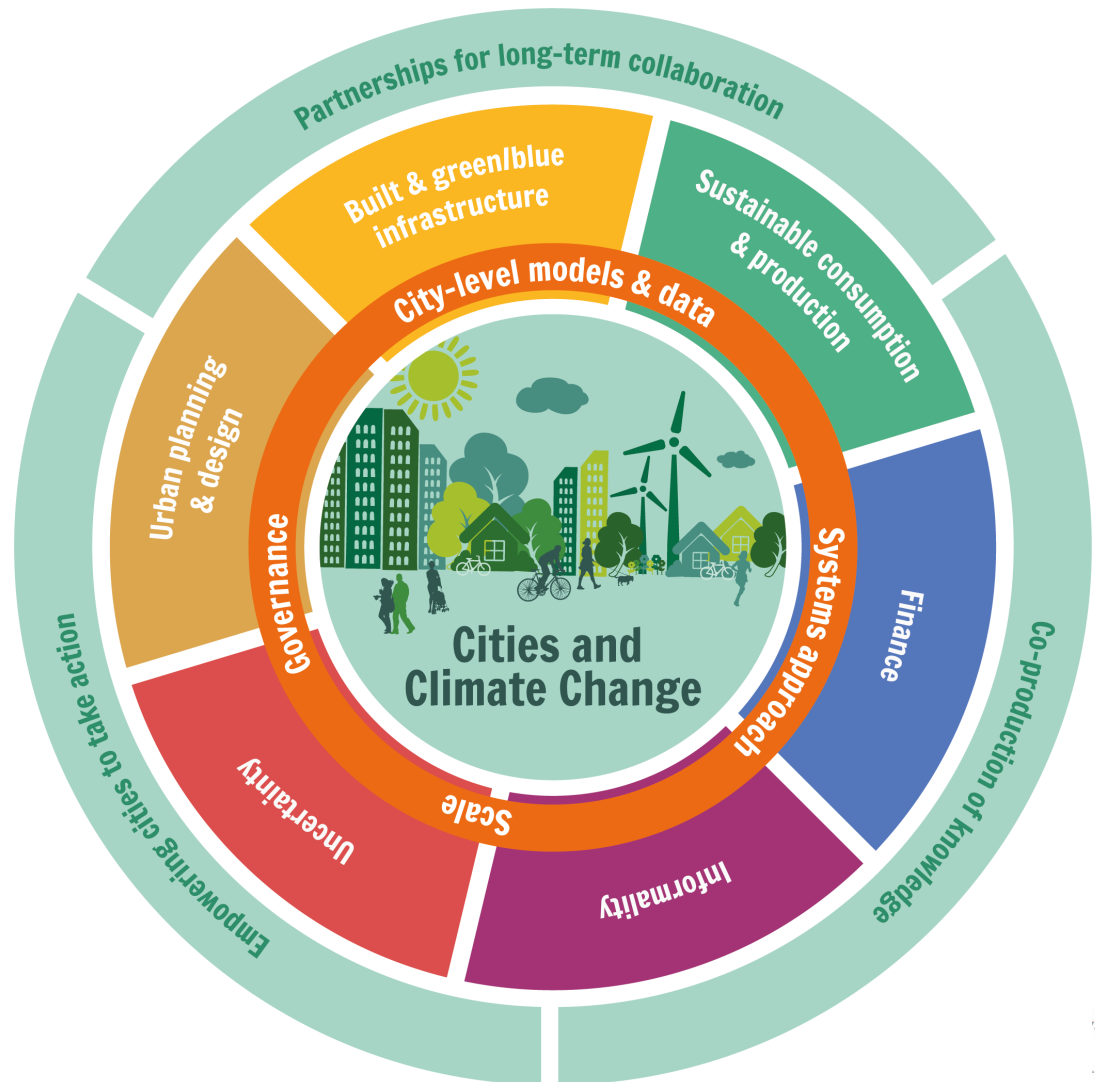


- **700+ délégués**

- Académiques/Chercheurs
- Décisionnaires politiques
- Gestionnaires
- Secteur privé
- Leaders autochtones
- Jeunesse

- **64 pays**
- **32% participants des pays en voie de développement**
- **49% femmes, 51% hommes**

- **Problématiques transversales**
- **Thématiques clés**
- **Approches renforçant les interfaces science-politique-société**



Graphic design by Amanali Cornejo V.

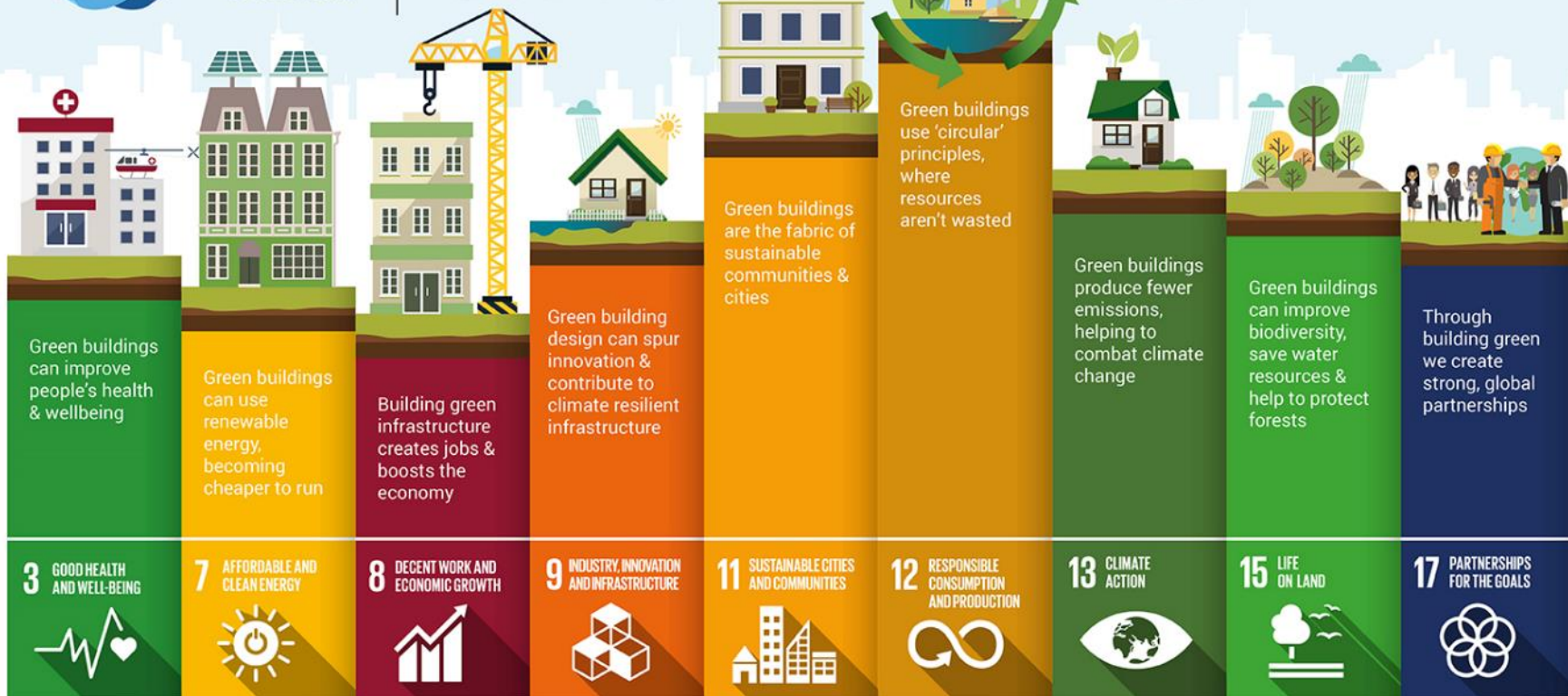
- Approche système et co-bénéfices
- Adaptation
  - Gouvernance, institutions
  - Urbanisme
  - Infrastructures vertes et bleues
- Informalité





**WORLD  
GREEN  
BUILDING  
COUNCIL**

**SUSTAINABLE  
DEVELOPMENT  
GOALS**



- Approche système et co-bénéfices
- **Adaptation**
  - Gouvernance, institutions (inclusivité, participation, modèles alternatifs)
  - Urbanisme (impact & co-bénéfices sur la santé , micro-climats, continuum des territoires, planification long-terme)
  - Infrastructures vertes et bleues (faible teneur en carbone, faible consommation énergétiques, rôle des écosystèmes)
- **Apport des sciences humaines & sociales:** Informalité, équité, justice, consommation, gouvernance

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- Trajectoires & outils de co-conception & co-production des connaissances & des solutions
- Espaces de facilitation & d'échanges (par les pairs, entre communautés)
- *Living laboratories*



**Habitat III - Pavilion  
Xchange, Oct. 2016**



**CitiesIPCC, March 2018**

- Innovate4Cities du Global Covenant of Mayors
  - Alliance de villes leader dans la lutte contre le changement climatique, soutenu par les réseaux de villes (ex. C40, ICLEI)
  - Construit sur CitiesIPCC

## THE INNOVATE4CITIES PROCESS

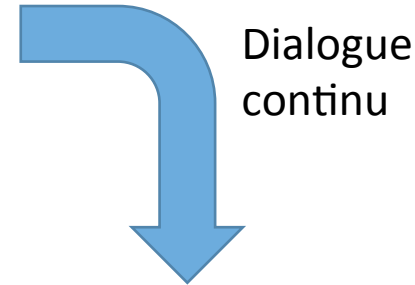
ACADEMIA GOVERNMENTS PRIVATE SECTOR CITIES

OPPORTUNITY PILLARS and  
KNOWLEDGE & INNOVATION GENERATION



## Extended version: *Global Research and Action Agenda on Cities and Climate Change Science*

Authored by: Anne-Hélène Prieur-Richard, Brenna Walsh, Marlies Craig, Megan L. Melamed, M'Lisa Colbert, Minal Pathak, Sarah Connors, Xuemei Bai, Aliyu Barau, Harriet Bulkeley, Helen Cleugh, Maurie Cohen, Sarah Colenbrander, David Dodman, Shobhakar Dhakal, Richard Dawson, Jessica Espey, Julie Greenwalt, Priya Kurian, Boram Lee, Lykke Leonardsen, Valerie Masson-Delmotte, Debashish Munshi, Andrew Okem, Gian C. Delgado Ramos, Roberto Sanchez Rodriguez, Debra Roberts, Cynthia Rosenzweig, Seth Schultz, Karen Seto, William Solecki, Maryke van Staden, Diana Ürge-Vorsatz



Cities have the potential to be major catalysts of change in the implementation of recent international agreements such as the Paris Agreement, the 2030 Sustainable Development Agenda, the New Urban Agenda and the Sendai Framework for disaster risk reduction. **Climate change adaptation and mitigation at the national level is especially important which is expected to result in 68% of the 2018).**

**CITY RESEARCH AGENDA**

### 1 WHY SHOULD WE TAKE CLIMATE ACTION?

Cities need information to understand the potential detrimental effects of climate change on their communities and related ecosystems and how their everyday decisions contribute to climate change globally. Information which is specific to particular cities, or particular regional or geographic contexts is needed for cities to understand the scope of the problem in their local context and see themselves in the solution. Successfully identifying options (including nature-based solutions and social innovation) and justifying them requires access to information, expertise and local-level data on the science of climate change, the impacts it will have on local communities and ecosystem services, and the timelines within which action will be necessary to address the problem. Impacts on vulnerable populations must be considered so that climate action supports all residents.

### RESEARCH PRIORITIES

*Evidence is required to progress decision making in cities and provide a rationale to act.*

- Generation of city scale data for development of specific observation, models, scenarios.
- Communication of uncertainty and risk for cities relating to climate hazards.
- Decreasing the gap in climate relevant data on vulnerable communities.
- Equitable development and dissemination of knowledge and data.
- Calculation and communication of economic and health effects of action vs. inaction.
- Measures to value a wide range of climate and societal co-benefits of climate solutions.

### 2 HOW SHOULD WE PRIORITIZE?

Once cities have established a need for action, the next step is to set goals and develop a strategy to meet them. Fortunately, global and local city networks have been working for years to assemble evidence for best practices in many different city contexts. Generally, effective actions are known, but the feasibility and trade-offs between various options and the specific priorities for a certain community may not be. It is important to understand what to prioritize and why, in the context of a specific city and region. In certain cases, big ticket items will provide greater gains in efficiency, resilience and societal co-benefits. In other circumstances, implementing multiple easy wins will have greater impact. It is important for cities to understand the implications of action on different sectors and parts of society.

### RESEARCH PRIORITIES

*Local context needs to be built into the knowledge generated to enable cities to prioritize and act.*

- Understand co-benefits and reduce risks for most vulnerable populations.
- Evaluate combinations of high-tech and low-tech innovation.
- Determine how to incorporate informal settlements in urban planning strategies.
- Use of social science in engaging a broad group of stakeholders on new initiatives from planning through implementation.
- Explore incentives for municipal employees to innovate and take risks with transformative decisions.
- Investigate emerging social innovations in cities that could be exported globally to scale solutions.
- Develop solutions which are flexible and distributed/networked that can be expanded or changed as innovation progresses or financing allows.

### 3 WHAT SHOULD WE DO?

To be successful, a climate action plan must be secured in a solid policy strategy and bolstered by support from stakeholders who carry both a shared set of sustainability goals and the capacity to assist the city in implementing them. There are several sectors where cities have a strong role in reducing emissions and building resilience, and it is important to work with key partners and institutions who influence these sectors to propose effective solutions. In many cases, cities lack information on policy options and examples of successful implementation of "known solutions." Selecting the right approach for implementation may also require collaboration with local partners or other levels of government in new and innovative ways that are untested. Clear illustration of direct and indirect climate and societal benefits of action within these sectors can be critical in receiving approval of a particular project.

### RESEARCH PRIORITIES

*Research priorities that are most important entry points for city action.*

- |   |  |   |
|---|--|---|
| <p><b>Urban Planning and Design</b></p> <ul style="list-style-type: none"> <li>• Assess planning policies to help mitigate urban heat island effect.</li> <li>• Quantify potential for different blue/green infrastructure and nature-based solutions to reduce emissions, build adaptive capacity and resilience, provide co-benefits and address issues of biodiversity.</li> </ul> <p><b>Buildings</b></p> <ul style="list-style-type: none"> <li>• Identify a strategic approach to retrofitting city building stock based on building typology to reduce emissions.</li> <li>• Develop policy to set new building standards to accelerate uptake of efficiency standards.</li> </ul> | <p><b>Energy</b></p> <ul style="list-style-type: none"> <li>• Evaluate balance between connected vs. distributed renewable systems based on access and reliability.</li> <li>• Assess energy efficiency increases through use of micro grids.</li> </ul> <p><b>Water</b></p> <ul style="list-style-type: none"> <li>• Assess solutions to address the urgency of water-scarcity, pollution and allocation in cities and their related ecosystems.</li> <li>• Explore connections between water, energy and materials to develop sustainable solutions in urban areas.</li> </ul> | <p><b>Waste</b></p> <ul style="list-style-type: none"> <li>• Evaluate benefits of diversion and recycling considering supply and demand.</li> <li>• Communicate community benefits of controlled landfilling to build understanding and buy-in of waste collection systems.</li> </ul> <p><b>Transportation</b></p> <ul style="list-style-type: none"> <li>• Explore how digital infrastructure can be built into transit systems to connect public and private transit technology.</li> </ul> <p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Support community-based and entrepreneurial innovation in climate smart food systems.</li> </ul> |
|---|--|---|

### 4 HOW DO WE FINANCE & SCALE CLIMATE ACTION?

Successful policy instruments must often be scaled to larger, more complex systems that interact with other aspects of the local and regional governance, and that impact with a city's socioeconomic fabric. At times, necessary financing can be difficult to access which is why close collaboration with other levels of government, development agencies, and financial institutions is key to maximizing climate policy creditworthiness. A clear understanding of the mechanisms which can be used to create a better landscape for financing within a city's local, regional and national context is key to ensure financing of solutions is sustainable and scalable.

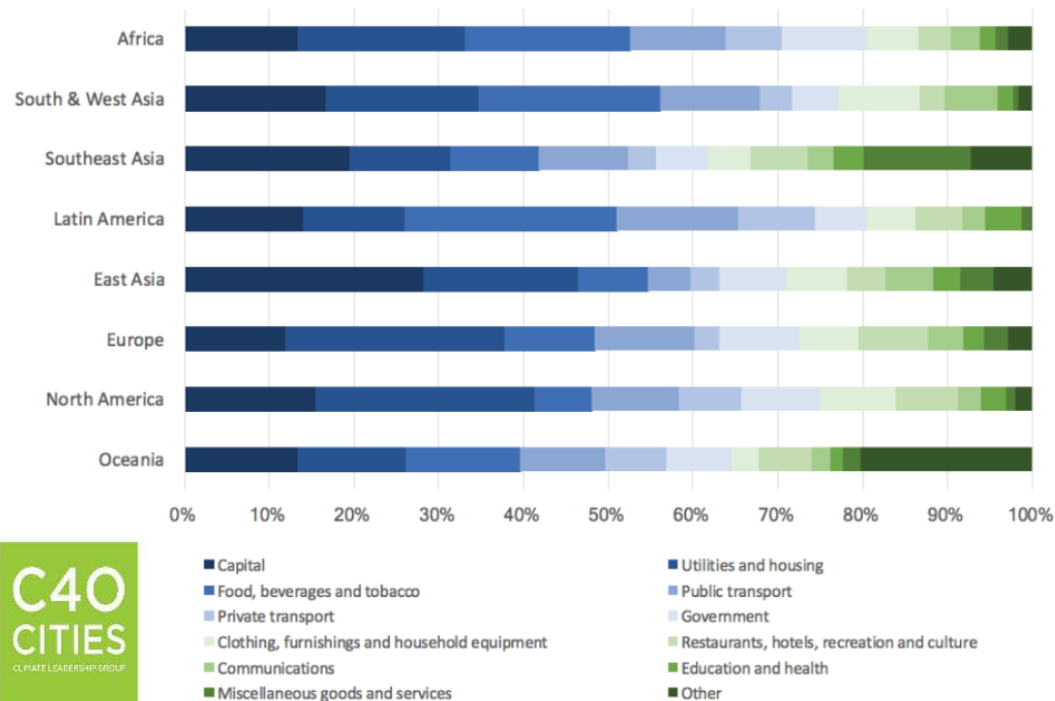
### RESEARCH PRIORITIES

*Policy and finance instruments.*

- Financing**
- Collaboration and capacity building to develop bankable projects and increase creditworthiness to de-risk investment.
- Governance**
- Governance landscapes (considering formal and informal actors) to support greater generation of greater municipal revenue.
- Public Procurement**
- Strategic methods for awarding projects which prioritize sustainability in their solution.

- Donner aux villes les moyens de prendre des mesures
  - Financiers & politiques
  - Villes jumelles
  - Développement d'outils & pratiques

Emissions de gaz à effet de serre dues à la consommation des villes, C40



- Collaboration à long terme
  - Compétences & processus sont construits pour être résilients face aux cycles politiques
  - Volonté de l'ensemble des communautés à s'investir dans ces interfaces
  - Volonté des villes de s'investir dans cette action

Signature Déclaration  
d'Edmonton par ICLEI, Juin  
2018





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- Rôle de l'Agence Nationale de Recherche



- Financement français de la recherche sur projets
  - National
  - Partenariats européens et internationaux
- Excellence & positionnement stratégique sur la scène internationale
- Analyse préliminaire sur projets financés 2005-2016
  - **Ville**, durabilité, résilience, climat, adaptation, services écosystémiques: 143 projets
  - ≈20%: infrastructure
  - ≈30%: adaptation
  - ≈50%: avec des partenaires privés (entreprises ou autres)

- Agenda de recherche-action international
  - Alignement avec les besoins de la région
- Financement de projets de recherche transdisciplinaires: Agence Nationale de la Recherche
- Construction de consortium, espace de dialogue et de facilitation: structure(s) et mécanisme(s) appropriés ?

# Merci !

Anne-Helene.Prieur-Richard@anr.fr

[www.citiesipcc.org](http://www.citiesipcc.org)



